

IDAHO DEPARTMENT OF FISH & GAME

Jerry M. Conley, Director

Oxbow Hatchery

Annual Report



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by

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Oxbow Hatchery

ABSTRACT

A total of 339 adult steelhead and 8 jack fall chinook salmon were trapped at Hells Canyon during the season. Mortality totaled 182 adult steelhead. Some 136 females and 97 male steelhead were spawned yielding 608,308 green eggs. We shipped 596,696 eyed eggs to Niagara Springs Hatchery for rearing. We planted 553,780 juvenile steelhead into the Snake River below Hells Canyon Dam.

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OBJECTIVES

The objectives of the Oxbow Hatchery are to:

1. Trap all steelhead and salmon returning up the Snake River to Hells Canyon Dam.
2. Hold all adult steelhead until spawning time at the Oxbow Hatchery.
3. Spawn adult fish and incubate eggs until eyeup.
4. Transfer eyed eggs to Niagara Springs Steelhead Hatchery or to Rapid River Salmon Hatchery.
5. Release available juvenile steelhead and salmon into the Snake River below Hells Canyon Dam.

INTRODUCTION

The Oxbow Hatchery is located at Oxbow, Oregon on the Hells Canyon Reservoir of the Snake River, one-half mile downstream from Oxbow Dam Power Plant. The fish trap is located on the tailrace of Hells Canyon Dam on the Oregon shore of the river.

Water to the hatchery is pumped from Hells Canyon Reservoir by four electric pumps: two 7,850 gallons per minute supply water to the holding ponds and two 200 gallons per minute pumps supply water to the hatchery incubation facilities. Under current practice only one pump of each size is for normal operation with the other pumps utilized as standby pumps.

The holding facilities consist of four interconnected ponds with automatic fish crowders and fish unloading and sorting apparatus. The four ponds can be separated by fish racks or left interconnected. Two of the ponds are 34 x 54 feet and the other two are 34 x 104 feet. The ponds are 7 1/2 feet deep with the water held at 4 1/3 feet. The pond can hold about 2,000 adult steelhead.

The incubation system consists of a settling tank and 2 banks of distribution pipes with space for up to 40 stacks of incubators. There are currently 12, 16 tray stacks of Heath incubators with a capacity of about three million steelhead eggs.

The Oxbow facility also has six (6) raceways that measure 6 feet wide by 100 feet long by 3 feet deep, and a 360 foot incubation channel that is not currently utilized.

The Oxbow Hatchery is operated over a 10 month period between September and May. Fish trapping at Hells Canyon covers the same period with the first fish trapped in September and the last in May. The majority of the fish are trapped in the fall with a lesser percent trapped in the spring. The trap is normally removed from the river in mid-winter when freezing may occur and in the spring when high water spillway discharge necessitates its removal. Fish trapped at Hells Canyon are transported by Idaho Power to Oxbow holding ponds whenever fish are in the trap.

Spawntaking operations normally commence during the first week in April and end during the last week in May. Eyed eggs at Oxbow are transferred to Niagara Springs Hatchery for hatching and rearing for later return to Hells Canyon.

FISH PRODUCTION

There were no juvenile fish raised at Oxbow this year.

FISH HEALTH

A total of 182 (126 males and 56 females) adult steel head died this year from undetermined causes. Nearly all losses were associated with sorting and spawning operations in April and May. Fish sorting facilities caused considerable trauma to fish at this station. All injured fish were swabbed with concentrated malachite green when the need arose during fish sorting.

Fish eggs were prophylactically treated twice a week with a 1:500 formaldehyde flush to prevent fungus.

FISH TRANSFERS

No fish were transferred to Oxbow from other stations this year.

A total of 339 adult steelhead were trapped at Hells Canyon Dam by Idaho Power and transferred to the Oxbow holding ponds. There were also 8 fall chinook jacks trapped and later released back into the river. The Hells Canyon trap was in operation a total of 215 days between 11 September 1979 and 25 May 1980 (Table 1). A total of 59% of the fish were trapped in the fall and 41% in the spring.

FISH RELEASES

Niagara Springs Hatchery released a total of 205,560 (3,600 lbs) of fingerling steelhead at Hells Canyon during October 1979. They also released 348,220 (45,100 lbs) of steelhead smolts in the same location during January and February 1980. The fish were transported from Niagara Springs by Fish and Game tanker trucks and released at the Hells Canyon boat ramp approximately 1/2 mile downstream from the fish trap.

SPAWNTAKING OPERATIONS

Spawntaking activities occurred during April and May of 1980. A total of 136 female and 97 male adult steelhead were spawned (Table 2). A total of 608,308 eggs or 2,122 ounces averaging 286 eggs per ounce were taken. Some 596,696 eyed eggs were shipped to Niagara Springs Hatchery for rearing. Eyeup was 97.3% of the eggs taken and there was an average of 4,473 eggs per female spawned.

FISH FEED UTILIZED

No fish feed was used at this station this year.

HATCHERY IMPROVEMENTS

A new irrigation system was installed at the hatchery this year. Idaho Power installed the pipeline between the incubator water supply line and the hatchery residence. The system also includes a pressure booster pump.

A used half ton pickup truck was transferred to the station to aid in hatchery activities. A 300 gallon bulk gas tank was also purchased at the same time.

A new porch was installed at the hatchery residence with private funds to improve the grounds.

SPECIAL STUDIES

No special studies were carried out at Oxbow this year.

MISCELLANEOUS ACTIVITIES

Approximately 2,000 people visited the Oxbow Hatchery this year. Most of the visitors came to watch the fish unloading and spawning operations.

Personnel received specialized training several times this year. A writing improvement course was taken. Firearms and enforcement courses were taken. The Crash Injury Management and CPR training programs were also attended.

Personnel also assisted with salmon trapping and spawning activities at Rapid River Hatchery during the months of June and August.

ACKNOWLEDGMENTS

Oxbow Hatchery was staffed by John T. Siple, Fish Hatchery Superintendent I; Robert Vaughn, Fish Hatchery Superintendent II and Michael Graham, Fish Hatchery Superintendent I, who assisted with spawning and fish sorting several times during spawning season.

Table 1. Summary of fish trap operation at Hells Canyon, 1979-1980.

Month	Date installed or removed	Days in operation	Number of steelhead trapped	Percent of total run	Numbers of fall chinook
9/79	9/11/79	20	5	1.5	None
10/7	Continuous operation	31	136	40.1	7 jacks
11/7	Continuous operation	30	47	13.9	1 jack
12/7	Continuous operation	31	12	3.5	None
1/80	1/21/80	21	0	0	None
2/80	Not operating		0	0	None
3/80	3/4/80	27	26	7.7	None
4/80	Continuous operation	30	91	26.8	None
5/80	5/25/80	25	22	6.5	None
Totals		215	339	100.0	8

Table 2. Spawn takes for Oxbow Hatchery 1980.

Take number	Date	Number females spawned	Number males spawned	Number of eggs	Oz. eggs	Eggs/ ounce	First pick-off	% eyeup	Number of eggs shipped	Oz. of eggs shipped	Eggs/oz shipped	Date shipped
1	4/7/80	10	6	44,352	168	264	1,320	97	43,032	163	264	4/29/80
2	4/14/80	12	8	60,720	230	264	0	100	60,720	230	264	5/2/80
3	4/21/80	18	12	84,970	293	290	0	100	84,970	293	290	5/7/80
4	4/28/80	28	24	134,560	464	290	0	100	134,560	464	290	5/13/80
5	5/5/80	33	25	139,200	480	290	0	100	139,200	480	290	5/20/80
6	5/12/80	25	15	107,300	370	290	11,020	89.7	96,280	332	290	5/28/80
7	5/19/80	7	5	27,030	85	318	1,272	95.2	25,758	81	318	6/3/80
8	5/26/80	3	2	10,176	32	318	0	100	10,176	32	318	6/9/80
Totals		136	97	608,308	2,122	286		97.8	596,696	2,075	287	